Remarks:

This application has been reviewed carefully in light of the Office Action mailed May 29, 2008. In the Office Action, claims 16/1 and 16/4 were objected to for informalities. Claims 16/1 and 16/4 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Claims 1, 4, 5, 6, 9, 11, 12/6, 13/6, 14/6, 15/6, 12/9, 13/9, 14/9, 12/4, 13/4, 14/4, 15/1, 15/4, and 15/11 were rejected under 35 U.S.C. § 102(b), as being anticipated by Yoshinaga et al., U.S. Pat. Num. 4,395,197. Claims 1, 4, 5, 9, 11, 13/9, 14/9, 13/4, 14/4, 15/1, 15/4, and 15/11 were rejected under 35 U.S.C. § 102(b), as being anticipated by Fabri, U.S. Pat. Num. 3,824,029. Claims 16/1 and 16/4 were rejected under 35 U.S.C. § 103(a), as being unpatentable over Fabri in view of Trumpler, U.S. Pat. No. 2,471,174.

The applicant notes with appreciation the examiner's use of figures in describing the disclosure of the prior art.

The above-described objections and rejections are addressed as follows.

I. Claim Objections

The claims have now been amended to eliminate the identified informalities. The applicant respectfully requests the objections to the claims be withdrawn.

II. § 112 Rejection

Claim 16 has now been amended to correct the identified issue. More particularly, for each discontinuity the first sharp edge has been clarified to be the first sharp edge respectively associated with that

discontinuity. The applicant respectfully requests the rejection of claim 16 under 35 U.S.C. § 112, be withdrawn.

III. § 102(b) and § 103(a) Rejections

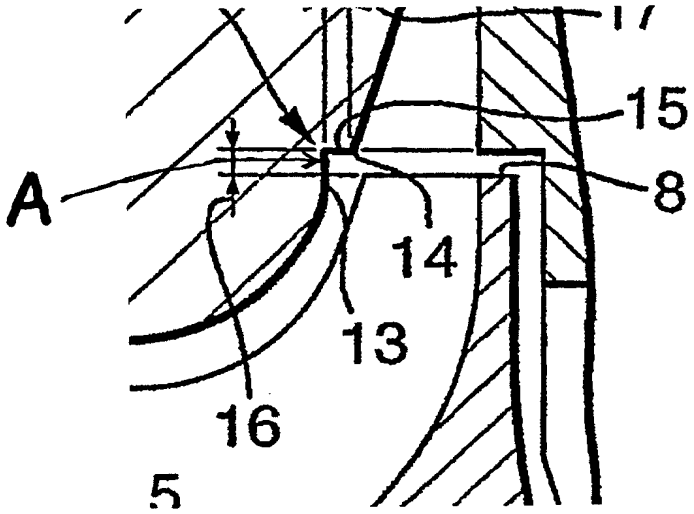
The present invention pertains to a modification of turbocharger technology for a non-shrouded compressor wheel to resist the reverse flow of fluid through the wheel, such as when faced with significant back pressure. This modification uses a discontinuity in the shroud, the discontinuity being associated with a surface that faces downstream in the gas flow path.

The invention is distinct from the cited art in a number of ways. Initially, the applicant notes that under this invention, devices are provided with the discontinuity and downstream-facing surface to affect gas flow along the gas flow path. Both of the cited references disclose shrouded wheels (i.e., wheels that incorporate a shroud that rotates with the wheel). The gas flow path for these shrouded wheels extends within and through the rotating shroud, but not outside the rotating shroud. However, the discontinuities identified in the Office Action are radially outside of the rotating shrouds, and thus they are not along the gas flow path (as is required by the present claims as amended).

The applicant further notes that the invention features (and requires) a downstream-facing blocking face adapted to impede an upstream flow of gas between the shroud and the wheel. The distinction between a downstream facing face and a face that is parallel with the flow is important in the construction of this feature.

The figure below is a portion of FIG. 2 from the present application. In the figure it is apparent that the shroud is adapted with a notch in the

vicinity of the trailing edge of the blade. However, the notch does not conform to the downstream outer edge of the blade (and the gas flow path). Instead, it turns to face in a downstream direction, and thereby form a downstream-facing blocking face (identified with an A). This face is not conformingly angled to be parallel to the flow stream, but rather it is angled to face downstream, and thereby impede fluid from flowing upstream.



Turning to the primary cited references, and ignoring for a moment that the discontinuities are not in the gas flow path, the applicant notes that the identified blocking faces at the trailing edge are not downstream-facing, but rather are parallel to the local flow path.

In sum, claim 1 recites "the discontinuity forms a **downstream-facing blocking face** adapted to impede an upstream flow of gas between the shroud and the wheel, the **blocking face extending across the flow path** to form a sharp edge connecting the blocking face to **a smoothly curving surface ... along the gas flow path.**" The cited art fails to disclose downstream-facing blocking faces, blocking faces extending across the flow path, and smoothly curving surfaces along the gas flow path (that connect to the blocking face via a sharp edge).

Because the cited references fail to disclose the features of claim 1, as amended, the applicant respectfully requests the rejections of claims 1, 4-6, 9, and 11-16 be withdrawn.

VIII. Conclusion

In view of the foregoing, the applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

Hua CHEN

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